In 1998, INEEL contracts paid $1.4 million to the State of Idaho in Idaho sales taxes and an additional $0.9 million in Idaho franchise tax.

4.4 Cultural Resources

4.4.1 CULTURAL RESOURCE MANAGEMENT AND CONSULTATION AT INEEL

Cultural resources at INEEL include archaeological and historic resources, such as prehistoric camp sites and historic buildings and trails, as well as the plants, animals, physical locations, and other features of INEEL environment important to the culture of the Shoshone-Bannock Tribes and to national, regional and local history. Several Federal laws, which are described in Chapter 6, govern the protection of archaeological and historic resources on lands managed by Federal agencies. These and other laws also require consultations among Federal agencies, Native American tribes, the Idaho State Historic Preservation Office, and other interested parties where resources important to the tribes and others may be affected by proposed activities on Federal lands. To comply with these requirements, DOE developed a *Management Plan for Cultural Resources* (Miller 1995) that provides procedures for consultation and coordination with state and Federal agencies and the Shoshone-Bannock Tribes. DOE has also formalized its relationship with the Shoshone-Bannock Tribes in an "Agreement in Principle" (DOE 1998) that provides a formal framework for the consultation process with the Tribes. Through the NEPA review process, other interested parties are provided an opportunity to comment on activities that may impact archaeological and historic resources.

The DOE and INEEL Cultural Resources Management Office, which is staffed by contractor archaeologists and historic preservation specialists, consults regularly with representatives of the Shoshone-Bannock Tribes through meetings of the INEEL Cultural Resources Working Group. The INEEL Cultural Resources Working Group, formed in 1993, meets informally to share information, coordinate field work, and discuss cultural resource management issues at INEEL. The Cultural Resources Management Office and Tribal representatives provide expertise in compliance with historic preservation laws, archaeology, and anthropology, and the Tribal representatives bring the unique perspective of the contemporary Shoshone-Bannock culture to the management and interpretation of archaeological and historic resources at the INEEL.

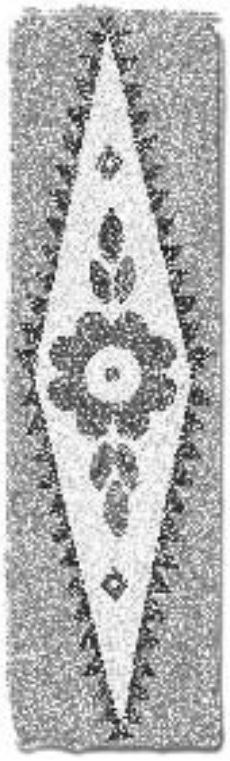
The archaeological and historic resources identified at INEEL represent the physical record of past cultures and provide only a partial understanding. A more complete understanding of past and present cultures can be attained by incorporating ethnographic information, historic accounts, and Native American oral histories. This approach, which is being developed by the INEEL Cultural Resources Working Group, allows the definition of cultural resources to be expanded to provide a more complete picture of the interrelationships between humans and the natural environment. This approach also provides the necessary background to understand the continuing importance of INEEL resources to the Shoshone-Bannock culture and to local communities, the state of Idaho, and the nation.

4.4.2 CURRENT STATUS OF CULTURAL RESOURCE INVENTORIES AT INEEL

Most of the cultural resource inventories completed to date at INEEL have been performed to comply with the requirements of the National Historic Preservation Act. The National Historic Preservation Act requires that, prior to implementing a project or activity, Federal agencies determine whether the project or activity could affect properties included in or eligible for inclusion in the National Register of Historic Places. This typically involves completing archaeological surveys of specific areas that would be disturbed or altered by the project or activity, and identifying and evaluating any historic properties that may also be affected. As a result, previous surveys have been concentrated near active facilities, covering approximately 7 percent of INEEL land area (Pace 1998).

Because of the high density of prehistoric sites on INEEL and the need to comply with cultural resource protection requirements in all Federal activities, DOE sponsored the development of a

predictive model to assist in planning cultural resource surveys and siting new INEEL projects (Ringe 1995). The predictive model does not take the place of field surveys required under the National Historic Preservation Act, but it helps identify areas where impacts to significant archaeological resources and increased compliance costs are most likely to occur. According to the model, high densities of resources are likely to be found along the Big Lost River and Birch Creek, in the Lemhi mountains, in the Lake Terreton basin, atop buttes, within craters and caves, and in a 1.75-mile wide zone along the edge of local lava fields.



As of January 1998, 1,839 archaeological sites had been identified at INEEL. Of these, approximately 94 percent were prehistoric and 6 percent were historic (i.e., representing the last 150 years). Over half the archaeological sites identified to date are potentially eligible for listing in the National Register of Historic Places. ***Pending*** formal significance evaluations, including archaeological testing and historic record searches, ***these*** sites are ***treated as*** potentially eligible for nomination to the National Register of Historic Places.

To gain a better understanding of the importance of INEEL's historic buildings and structures, DOE recently completed an inventory of all DOE-managed buildings on INEEL (Arrowrock Group 1998). DOE identified 217 buildings out of 516 surveyed as potentially eligible for listing in the National Register of Historic Places because of their association with Idaho's World War II activities and the nation's nuclear era, and in some cases, their design, material, and workmanship. At present, the Idaho State Historic Preservation Office is reviewing and drafting comments on the eligibility determinations (Braun 1998). Currently, the Experimental Breeder Reactor-I, the first nuclear reactor in the world to produce electric power, is the only historic property on INEEL that is listed on the National Register of Historic Places. The Experimental Breeder Reactor-I is also a National Historic Landmark (Pace 1998).

4.4.3 PALEONTOLOGICAL RESOURCES

Paleontological resources identified to date at INEEL include vertebrate and invertebrate animal, pollen, and plant fossils found in alluvial gravels along the Big Lost River, in caves and lava tubes, and in lake sediments. Twenty-four paleontological localities at INEEL have been identified in published data (Miller 1995). Recently, a horse fossil was identified in a gravel pit near the Central Facilities Area. Other vertebrate fossils have included mammoth and camel remains. These and other plant and animal fossils identified at INEEL provide information on past environmental and climatic conditions.

4.4.4 PREHISTORIC RESOURCES

4.4.4.1 Archaeological Record

Archaeological investigations completed to date in southeastern Idaho have yielded evidence indicating human use of the Eastern Snake River Plain for at least 12,000 years. Investigations at a cave approximately 2 miles from the INEEL boundary provided the earliest evidence of human occupation, which was radiocarbon-dated at 12,500 years before present (yr B.P.). Data from these and other investigations have allowed archaeologists to identify three distinct periods: the Early Prehistoric (15,000 yr to 7,500 yr B.P.), Middle Prehistoric (7,500 yr to 1,300 yr B.P.), and Late Prehistoric (1,300 yr to 150 yr B.P.). These periods are distinguished by major changes in the types of projectile points, weapons, and tools used for hunting and gathering. The archaeological record indicates that weapon technology evolved from large spear points to smaller points associated with atlatl (spear thrower) use, and finally to bow and arrow during these periods. Although the technology changes are significant, the archaeological record shows a relatively consistent lifestyle based on hunting large game and gathering plants throughout the entire span of human use (Miller 1995).

Four major cultural resource surveys conducted since 1979 in the vicinity of INTEC have identified six cultural resources within an area of approximately 600 acres surrounding the facility. Of these, three of the resources are isolated prehistoric artifacts and have been evaluated as ineligible for the National Register of Historic Places. Although the archaeological surveys indicate that the area near INTEC contains only limited evidence of prehistoric use, there is potential for Big Lost River gravels to contain buried prehistoric artifacts, as well as paleontological remains.

4.4.4.2 Early Native American Cultures

The prehistoric archaeological record does not make clear when the ancestors of the Shoshone and Bannock peoples arrived in southeastern Idaho; however, the Shoshone-Bannock Tribes believe that native people were created on the North American continent and, therefore, regard all prehistoric resources at INEEL as ancestral and important to their culture. Prehistoric sites are located throughout INEEL, and all demonstrate the importance of the area for aboriginal subsistence and survival.

The ethnographic studies completed by early anthropologists describe the seasonal migration of the Shoshone and Bannock peoples across the Eastern Snake River Plain (Miller 1995). After wintering along the Snake River Bottoms near present-day Fort Hall, groups would disperse in the spring to salmon (*tahwa agai*) fishing areas along the Snake River below Shoshone Falls and along the Lemhi River and other Salmon River tributaries, and to camas (*zoigah* or *yambi*) prairies near present-day Fairfield and Dubois. In late summer and early fall, these groups would migrate northeast and east to hunt bison (*bozhe'na*) on the plains east of the Rocky Mountains. The area now occupied by INEEL served as a travel corridor for these groups, with the Big Lost River, Big Southern Butte, and Howe Point serving as temporary camp areas providing fresh water, food, and obsidian for tool making and trade.

The Shoshone and Bannock peoples relied on the environment for all of their subsistence needs and depended on a variety of plants and animals for foods, medicines, clothing, tools, and building materials. Figure 4-*2* depicts plant species of cultural importance that occur on or near INEEL and provides the Shoshone and Bannock names for each.

The importance of plants, animals, water, air, and land resources in the Eastern Snake River Plain to the Shoshone and Bannock peoples is reflected in the sacred manner in which they view the resources. According to Turner et al. (1986):

> "for those who perceive the world through the Shoshonean language and culture, the Earth is alive and sentient... the Realm of the Sacred includes all living things: plants, animals, water, and even the mud."

The reverence for all things extends even to the names of places, as stated by a Shoshone-Bannock elder (Yupe 1998), "You can't say its name around it or there will be trouble like a storm. Its name is sacred."

Specific places in the Eastern Snake River Plain have sacred and traditional importance to the Shoshone-Bannock people, including buttes, caves, and other natural landforms on or near INEEL. These places are not named here, to protect the resources and to respect the Shoshone-Bannock view of those resources.

4.4.5 HISTORIC RESOURCES

Historic sites on INEEL reflect continued use of the Eastern Snake River Plain by Shoshone and Bannock peoples and also include sites associated with the Euroamerican settlement and development of the region. These sites include a portion of Goodale's (Jeffrey's) Cutoff transecting the southwestern corner of INEEL, which was used by settlers as an alternate route along the Oregon Trail in the 1850s. The Cutoff and other historic trails on INEEL (Figure 4-3) were also used for cattle drives and sheep drives to bring livestock from Idaho, Washington, and Oregon to shipping points in Wyoming. Many of the historic sites scattered across INEEL are remnants of camps used during cattle and sheep drives and seasonal movements to various pastures (Miller 1995).

CACTUS
wogwai'bi***

Opuntia polycantha is gathered for food. This common cactus grows abundantly throughout INEEL.

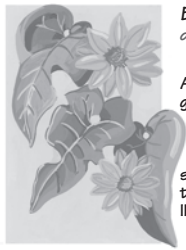
FIREWEED
bea sa nip*
ba ba sh ea cah**

Many members of the ***Epilobium*** genus are used for food, medicine, and tools. They are common throughout INEEL.

DESERT PARSLEY
do za***

Some members of the genus ***Lomatium*** are used for food or medicine. They are uncommon but are scattered along INEEL roadsides.

BALSAM ROOT
doyatsayaha'n***



A few members of the genus ***Balsamhorriza*** are used for food and medicine. They are common and scattered about the buttes around INEEL.

TANSY MUSTARD
ah za*
a gah boe**

Several members of the genus ***Descurainia*** are used for food and medicine. They are common in disturbed areas around INEEL.

CHOKECHERRY
dongiape***

Prunus virginiana is gathered for food, medicine, tools, and fuel. It is a common tree found growing on buttes around INEEL.

WILD ONION
ge'nga***

The ***Allium*** genus is collected for food, medicine, and dye. This onion is common throughout INEEL.

SERVICEBERRY
deambi, wi'yembi***

Some members of the ***Amelanchier*** genus are used for food, medicine, and tools. They are common on buttes throughout INEEL.

BEGGAR'S TICKS
sohna***

Bidens cernua is gathered for a source of food. This flower is common. It grows abundantly throughout INEEL's disturbed areas.

INDIAN RICEGRASS
wai***

Oryzopsis hymenoides is harvested for food. This grass is common and abundant throughout INEEL.

GOOSEFOOT
kah zo ne bah**
kah zo ne peh*

Many members of the genus ***Chenopodium*** are used for food. They are common and abundant throughout INEEL.

MINT
bagwana***

Some members of the ***Mentha*** genus are collected for medicine. These herbs are uncommon but are sometimes found growing along Big Lost River.

LEGEND
* = Bannock plant name
** = Shoshone plant name
*** = plant name shared by both cultures

FIGURE 4-2. (1 of 2)
Plants used by the Shoshone-Bannock located on or near INEEL.